

Remarks

Claims 1-33 remain for consideration in this application along with newly added claim 34.

Claims 13 and 15 have been amended to remedy typographical errors which were noted by the Examiner in the February 25, 2008, Office Action. Newly added independent claim 34 is based on present claim 1 and is generally directed toward a sanitizing composition comprising respective amounts of a sulfite salt, an alcohol selected from the group consisting of ethanol, propanol and mixtures thereof, and a monocarboxylic acid or salt thereof selected from the group consisting of acetic acid, lactic acid, a salt of lactic acid, a salt of acetic acid, and combinations thereof. Support for this new claim, and particularly the specific monocarboxylic acids and salts, may be found in the Specification on page 2, line 28-page 3, line 2 and Table 1.

I. Rejection of Claims 1-5 and 7-8 Under 35 U.S.C. §103(a)

Claims 1-5 and 7-8 were rejected as being unpatentable over Richter et al. (US 5,234,719) in view of Beerse et al. (US 6,217,887). It is the Examiner's position that Richter et al. teach a food sanitizing composition comprising C1-C8 monocarboxylic acids, such as octanoic acid, and alkyl alcohols, such as ethanol and propanol, in amounts overlapping the presently claimed ranges. The Examiner acknowledges, however, that Richter et al. do not teach the use of a sulfite salt as recited in claim 1. In order to overcome this deficiency, the Examiner relies upon Beerse et al. which purports to teach the use of various non-cationic antimicrobial agents, such as sodium sulfite and sodium bisulfite, in antimicrobial compositions. According to the Examiner, the references are combinable because they are in the same field of endeavor, and that it would have been obvious to add the sanitizing agent of Beerse et al. to Richter et al.'s composition in order to fortify the antimicrobial properties thereof. Applicant respectfully traverses this rejection.

A. Beerse et al. Expressly Teach Away from the Examiner's Asserted Combination

In column 3, lines 1-3, Beerse et al. teach that their composition comprises a proton donating agent, "wherein the proton donating agent is such that the composition is essentially free of C4-C20 alkyl fatty acid." This admonition against the use of C4-C20 alkyl fatty acids is repeated in column

13, lines 50-55. "It has been found that C4-C20 alkyl fatty acids do not provide the antimicrobial effectiveness required of the present invention. Without being limited by theory, it is believed that surfactant nature of these fatty acids result in the formation of micels [sic] in presence of water. This micellular structure inhibits the antibacterial effects of the fatty acids."

The entire invention taught by Richter et al. hinges on the presence of "an effective sanitizing amount of octanoic acid." See, Abstract. "The invention is based on a discovery that a specific carboxylic acid, octanoic acid, surprisingly provides extraordinary sanitizing, if not disinfecting, antimicrobial efficacy." Column 4, lines 53-56.

The teachings of Richter et al. and Beerse et al. are clearly incompatible on this point. Richter et al. teaches that the use of octanoic acid is essential, whereas Beerse et al. teaches that the use of alkyl fatty acids is to be avoided. According to MPEP 2141.03 (VI), "A prior art reference must be considered in its entirety, *i.e.*, as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984)." The Examiner is not permitted to piecemeal the claimed invention from the prior art, choosing to utilize only those teachings that serve this purpose. The teachings of each reference must be considered as a whole. Applicant has demonstrated a glaring contradiction between essential teachings of Richter et al. and Beerse et al., namely, the use of alkyl fatty acids, such as octanoic acid. Thereof, one of skill in the art would not look to combine the teachings of these references.

B. Use of Sodium Sulfite in Richter et al. Formulation Not Obvious to Try

The Examiner relies upon Beerse et al. as teaching the use of alkali and alkaline earth metal salts in antimicrobial compositions. Beerse et al. disclose only two sulfite compositions as non-cationic actives: sodium sulfite and sodium bisulfite. However, Beerse et al. disclose more than 200 specific active ingredients that may be used in accordance with their invention. Neither Beerse et al. nor Richter et al. provide any specific guidance that would lead one of skill in the art to select the sulfite compounds over any of the other recited actives. Thus, it is assumed that the Examiner is taking the position that it would have been obvious to one of skill in the art to try either of these two

compounds for use with the composition of Richter et al. as clearly there is no specific teaching that would lead one of skill in the art to make more than a random selection of sodium sulfite or sodium bisulfite from this very large list of possible actives.

MPEP 2143(E) states that to reject a claim on the basis that it would have been obvious to try,

“Office personnel must resolve the Graham factual inquiries. Then, Office personnel must articulate the following: (1) a finding that at the time of the invention, there had been a recognized problem or need in the art, which may include a design need or market pressure to solve a problem; (2) a finding that there had been a finite number of identified, predictable potential solutions to the recognized need or problem; (3) a finding that one of ordinary skill in the art could have pursued the known potential solutions with a reasonable expectation of success; and (4) whatever additional findings based on the Graham factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness. . . If any of these findings cannot be made, then this rationale cannot be used to support a conclusion that the claim would have been obvious to one of ordinary skill in the art.”

Applicant submits that neither (1), (2), or (3) have been established by the Examiner. The rationale for combining the teachings of the references given by the Examiner of “fortifying antibacterial properties” is an entirely self-serving, conclusory statement which entirely side steps the required findings that must be made as set forth in the MPEP. The Examiner has pointed to no recognized problem or need in the art which would have led one of skill in the art to select the sulfite compounds from the exhaustive list taught by Beerse et al. Clearly, the list of actives taught by Beerse et al. cannot be seen as a finite number of identified, predictable potential solutions. And given the teachings of Beerse et al. pertaining to a lack of compatibility with alkyl fatty acids, one of skill in the art could not have had a reasonable expectation of successfully combining this reference with teachings of Richter et al.

Thus, even if the teachings of Beerse et al. and Richter et al. were combinable, the Examiner has not provided a clear articulation as to why the claimed invention would have been obvious as required by the U.S. Supreme Court in *KSR*. Accordingly, the present rejection should be withdrawn.

C. Use of Mono-Carboxylic Acid and Sulfite Salts Gives Unexpected Results

As further evidence of the non-obviousness of the present invention, Applicant directs the Examiner's attention to the data contained on page 6 of the instant specification. At the top of page 6, Applicant notes that formulations tested without lactic acid (formula 2 of Table 1) and without sodium sulfite (formula 8 of Table 1) were not effective in vitro against *A. niger*. However, it was observed that formula 9 which contained both lactic acid and sodium sulfite exhibited excellent fungistatic properties.

Further, Table 2 shows the results of testing the same formulations for their ability to inhibit bacteria growth. Formula 9 was by far more effective in this regard than were formulas 2 and 8. Thus, the data demonstrates that synergistic fungistatic and bacteriostatic effects are produced when mono-carboxylic acids, such as lactic acid, and sulfite compounds, such as sodium sulfite, are used in combination.

In view of the foregoing, Applicant requests that the rejection of claims 1-5 and 7-8 be withdrawn.

II. Rejection of Claims 6, 9-12, and 25-33 Under 35 U.S.C. §103(a)

A. Lack of *Prima Facie* Obviousness

Claims 6, 9-12, and 25-33 were rejected as being unpatentable over Richter et al. Applicant submits that this rejection is improper as a matter of law insofar as it does not set forth a *prima facie* case of obviousness. The BPAI has recently confirmed that, despite the latest revisions to the MPEP, an obviousness rejection under section 103 still requires that the prior art teach or at least suggest each and every feature of the claimed invention, *See In re Wada and Murphy*, Appeal 2007-3733, citing *CFMT, Inc. v. Yieldup Intern. Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003)."

All rejected claims require the presence of an alkali or alkaline earth metal sulfite as they depend directly or indirectly from claim 1. The Examiner has previously admitted that Richter et al. do not teach a composition including a sulfite salt. Thus, the present rejection must fail as it cites no reference that overcomes this deficiency.

B. Assuming that Teachings of Beerse et al. Had Been Applied, Rejection Would Still Fail

Even if the Examiner intended to reject these claims over the combination of Richter et al. and Beerse et al., the rejection must still fail for all of the reasons given above. As stated previously, claims 6, 9-12, and 25-33 contain all limitations of independent claim 1 by virtue of their dependency therefrom. Thus, for all of the reasons argued above, a hypothetical rejection of these claims under that same combination must also fail.

III. Rejection of Claims 13-17 and 19-20 Under 35 U.S.C. §103(a)

Claims 13-17 and 19-20 were rejected as being unpatentable over Richter et al. in view of Beerse et al. Independent claim 13 is similar in most pertinent respects to independent claim 1 which was rejected under the same basis. The present rejection fails for all of the same reasons argued above (see, Section I) namely that Beerse et al. teach away from the asserted combination, that the Examiner has failed to sufficiently articulate a reason why the invention would have been obvious to try, and that the present invention produces unexpected fungistatic and bacteriostatic results when compared with prior art formulations including only one or the other of a carboxylic acid and sulfite salt.

Applicant respectfully requests that the present rejection should be withdrawn for all of the reasons given above.

IV. Rejection of Claims 18 and 21-24 Under 35 U.S.C. §103(a)

Claims 18 and 21-24 were rejected as being unpatentable over Richter et al. Similar to the rejection of claims 6, 9-12, and 25-33 discussed above, the present rejection is improper for not

setting forth a *prima facie* case of obviousness. All rejected claims depend from independent claim 13 which requires the presences of a sulfite salt, which the Examiner has admitted is not present in the composition of Richter et al. Therefore, a *prima facie* case of obviousness has not been made.

Even if the Examiner had made the rejection over Richter et al. in view of Beerse et al., the rejection would still fail for the reasons given in Sections I and III above. Therefore, Applicant respectfully requests that this rejection be withdrawn.

V. New Claim 34

A. Combination of Claimed Carboxylic Acids and Sulfite Salts Gives Unexpected Results in View of Cited References

Applicant has added new independent claim 34 which is directed to a sanitizing composition comprising respective quantities of an alkali or alkaline earth metal sulfite, a monocarboxylic acid or salt thereof (particularly acetic acid, lactic acid or salts thereof), and an alcohol (particularly ethanol, propanol, or mixtures thereof). As with independent claims 1 and 13 discussed above, the references cited by the examiner are not properly combinable, primarily due to the express teaching away by Beerse et al. Even if the references were properly combinable, the rejection does not sufficiently articulate why the asserted combination would have been obvious to try. Further, Applicant submits that the present invention exhibits surprising germicidal efficacy that could not be expected from the prior art.

The invention of claim 34 requires the use of acetic acid, lactic acid, or salts thereof in conjunction with an alkali or alkaline earth metal sulfite in the formation of a sanitizing composition. The fact that such a combination of lower alkyl carboxylic acids and sulfite salts produces an effective sanitizing composition would not be expected from the cited references. Richter et al. teach that octanoic acid is an essential component of their composition. Richter et al. also teach that fatty acids having carbon chain lengths of less than 8 are wholly ineffective in killing bacteria. See, the Figure which shows that C6 fatty acids exhibit less than a 1 log reduction in bacteria. Beerse et al. does not make up for this shortcoming, and as argued above, actually teaches away from the use of

fatty acids such as octanoic acid that used by Richter et al. Beerse et al. require the use of a non-cationic active and an anionic surfactant to achieve the desired germicidal efficacy. Therefore, in view of the cited references one of skill in the art would not have reasonably expected the presently claimed combination to exhibit adequate germicidal efficacy.

Again, the Examiner's attention is directed to the data presented in the specification of the instant application. The use of lactic acid alone or sodium sulfite alone do not exhibit the same fungistatic or bacteriostatic properties as do formulations that include both lactic acid and sodium sulfite. Further, it is clear that the improved efficacy is much more than a mere additive effect.

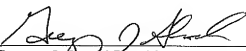
B. References Do Not Teach Claimed Alcohol Concentration

Finally, claim 34 recites that the sanitizing composition comprises between about 1-30% by weight of an alcohol selected from the group consisting of ethanol, propanol, and mixtures thereof. Applicant submits that even if Richter et al. and Beerse et al. were indiscriminately combined, this level of alcohol is not taught in a sanitizing formulation which also contains between about 0.25-10% by weight of a lactic acid, acetic acid, or salts thereof, and between about 0.25-10% by weight of a sulfite salt.

In view of the foregoing, a Notice of Allowance appears to be in order and such is courteously solicited.

Should the examiner have any questions which may be resolved by telephone conference, it is requested that the examiner contact applicant's attorney at 1-800-445-3460. Should this amendment necessitate any additional fees they may be charged to Deposit Account No. 19-0522.

Respectfully submitted,
HOVEY WILLIAMS LLP

By 

Gregory J. Hovey, Reg. No. 48,267
10801 Mastin Boulevard, Suite 1000
Overland Park, Kansas 66210
(913) 647-9050